Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	**)**	
	)	
Wireline Competition Bureau Seeks	)	GN Docket No. 18-231
Comment on the State of Fixed Broadband	)	
Competition	)	

COMMENTS OF ADTRAN, INC.

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Summary

As the Commission recognizes, presently a gap exists between broadband deployment in urban and rural areas. Given the continued deployment of broadband services, ADTRAN believes that the gap has been narrowing, but remains significant. The reason for this deployment gap is fairly straightforward – with today's technologies, the costs of deployment for fixed broadband services are driven significantly by population density, and rural areas are much less densely populated. As a result, there is the rural/urban gap in broadband deployment, and likewise even where fixed broadband has been deployed, there is less likelihood of multiple entrants and competition amongst fixed broadband service providers. One of the ways in which the Commission is addressing this gap is through the CAF. But the Commission properly determined that it cannot afford to subsidize multiple competitors in a territory. Nor would such "synthetic competition" benefit consumers.

But technological evolution may soon change the economics of broadband deployment so as to enhance competition even in less densely populated areas. 5G should allow multiple service providers to offer fixed broadband services. The Commission is already helping to accelerate deployment of broadband services by allocating additional spectrum, eliminating unnecessary regulations and speeding up the regulatory review processes.

These efforts are still unlikely to bring multiple competitors to the most remote areas, however. The Commission's Remote Area Fund should help with initial deployment of broadband. And further technological progress – in the form of mega-constellations of low-Earth orbit satellite systems – may bring broadband service to these areas without the latency drawback to today's high throughput Geostationary satellite services. And while numerous applications for such mega-constellations have been filed with the Commission (and some have been granted), it is still unclear how many of these systems will actually be launched. But if multiple systems are launched, then there will be broadband competition even for subscribers in these most remote areas.

The Commission is working hard to foster broadband deployment through subsidy programs, elimination of regulatory impediments and encouraging new broadband technologies such as 5G and mega-satellite systems. These actions should continue to result in additional broadband competition and elimination of the broadband gap. ADTRAN thus urges the Commission to persist with these efforts. In addition, the Commission should encourage other state, local and federal government officials to do what they can to foster additional broadband deployment.

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ADTRAN, Inc. ("ADTRAN") hereby addresses the issues raised in the Commission's *Public Notice* requesting comment on the state of fixed broadband competition.[1] The record in this proceeding will help inform the Commission's fulfillment of its obligation to report biennially on fixed broadband competition as required by RAY BAUM'S Act of 2018.[2] ADTRAN welcomes this opportunity to provide insight on the state of fixed broadband competition from the perspective of a manufacturer that sells equipment into the broadband network marketplace.

ADTRAN, founded in 1986 and headquartered in Huntsville, Alabama, is a leading global provider of networking and communications equipment. ADTRAN's products enable voice, data, video and Internet communications across a variety of network infrastructures.

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1 *Public Notice*, "Wireline Competition Bureau Seeks Comment on the State of Fixed Broadband Competition," DA 18-784, released July 27, 2018 ("*Public Notice*").

2 Consolidated Appropriations Act, 2018, Pub. L. No. 115-141, Div. P-Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018, §§ 401-404, 132 Stat. 348, 1087-90 (2018) (RAY BAUM'S Act of 2018).

ADTRAN's solutions are currently in use by service providers, private enterprises, government organizations and millions of individual users worldwide. ADTRAN thus brings an expansive perspective to this proceeding, as well as an understanding of the importance to individuals, communities and our country of robust and ubiquitous broadband. ADTRAN has been a strong advocate in Commission proceedings to help spur broadband deployment.[3] Indeed, ADTRAN has itself launched a gigabit initiative that has far surpassed its goal of facilitating the deployment of 200 gigabit communities by the end of 2015, with over 350 gigabit communities deployed by the end of 2016, and that trend has continued.[4]

The Broadband Divide

The *Public Notice* cites to a 2017 United States Government Accountability Office ("GAO") report examining factors affecting broadband competition, including how the Commission promotes broadband competition.[5] Although that GAO report relied on somewhat

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[3] *E.g.*, Comments of ADTRAN in WC Docket No. 17-84, filed January 17, 2018; Comments of ADTRAN in WC Docket No. 10-90, filed December 6, 2017; Comments of ADTRAN in GN Docket No. 17-199, filed September 21, 2017; Comments of ADTRAN in GN Docket No. 15-191, filed September 15, 2015; Comments of ADTRAN in WC Docket No. 10-90 *et. al.*, filed August 8, 2014; Comments of ADTRAN in WC Docket No. 10-90, filed March 28, 2013; Comments of ADTRAN in WC Docket No. 10-90 *et. al.*, filed January 18, 2012; Comments of ADTRAN in WC Docket No. 10-90 *et. al.*, filed April 18, 2011.

[4] *See, Press Release*, "ADTRAN Sets the Nation's Communities on the Path to Gigabit Transformation -- Utilities, MSOs and land developers deliver Gigabit broadband to over 350 communities," http://phx.corporate-ir.net/phoenix.zhtml?c=67989&p=irol-newsArticle&ID=2178711; http://gigcommunities.net/adtran-reaches-200-gigabit-community-milestone/ ("More than 200 communities are now able to access next-generation gigabit broadband services as a result of ADTRAN's Enabling Communities, Connecting Lives program, ADTRAN announced August 11."); *Light Reading*, August 13, 2014, "Adtran Launches 'Gig Communities' Initiative," available at http://www.lightreading.com/broadband/fttx/adtran-launches-gig-communities-initiative/d/d-id/710330. *See also*, http://gigcommunities.net/.

[5] GAO, Broadband: Additional Stakeholder Input Could Inform FCC Actions to Promote Competition, GAO-17-742, at 3 (2017), https://www.gao.gov/assets/690/687244.pdf. GAO's analysis included an examination of FCC Form 477 deployment data as of December 31, 2015, a

outdated data (from December 2015), the report confirms what the Commission has acknowledged in its annual Section 706 Reports – there is a gap between broadband deployment in urban and rural areas.[6] Given the continued deployment of broadband services, ADTRAN believes that the gap has narrowed, but remains significant.[7]

The reason for this deployment gap is fairly straightforward – with today's technologies, the costs of deployment for fixed broadband services are driven significantly by population density, and rural areas are much less densely populated. As a result, there is the rural/urban gap in broadband deployment, and likewise even where fixed broadband has been deployed, there is less likelihood of multiple entrants and competition amongst fixed broadband service providers.

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review of relevant statutes and literature, interviews with Commission officials and stakeholders, and meetings with 19 experts from academia, industry and consumer groups. *Id.*

[6] According to the most recent Section 706 Report (https://www.fcc.gov/reports-research/reports/broadband-progress-reports/2018-broadband-deployment-report):

> - As of year-end 2016, 92.3% of all Americans have access to fixed terrestrial broadband at speeds of 25 Mbps/3 Mbps, up from 89.4% in 2014 and 81.2% in 2012. Nonetheless, over 24 million Americans still lack fixed terrestrial broadband at speeds of 25 Mbps/3 Mbps.
>
> - Rural and Tribal areas continue to lag behind urban areas in mobile broadband deployment. Although evaluated urban areas saw an increase of 10 Mbps/3 Mbps mobile LTE from 81.9% in 2014 to 90.5 % in 2016, such deployment in evaluated rural and Tribal areas remained flat at about 70% and 64%, respectively. Approximately 14 million rural Americans and 1.2 million Americans living on Tribal lands still lack mobile LTE broadband at speeds of 10 Mbps/3 Mbps.
>
> - Approximately 92% of the population has access to both fixed terrestrial services at 25 Mbps/3 Mbps and mobile LTE at speeds of 5 Mbps/1 Mbps. In rural areas, 68.6% of Americans have access to both services, as opposed to 97.9% of Americans in urban areas.

[7] The Commission possesses more current information than the December 31, 2016 data used in the most recent Section 706 Report, because it collects Form 477 information on facilities-based broadband providers' deployment to end-users as of June 30 and December 31 each year, but that data is not publicly-available on the Commission's website.

The Commission has taken numerous steps to facilitate broadband deployment ubiquitously. And those efforts are meeting with success, insofar as the number of unserved households is shrinking. One of the methods the Commission utilizes is subsidization of broadband deployment through the Connect America Fund ("CAF").[8] But the amount of that subsidy fund is constrained. The CAF broadband subsidy comes out of the Universal Service Fund, which relies on an assessment on end-user revenues for interstate and international telecommunications services. That "tax" is currently set at 17.9%,[9] and thus already distorts the communications services marketplace. As a result, the Commission does not have the luxury of expanding the fund under the current contribution system.[10] Moreover, the CAF fixed broadband subsidy program competes with other Commission subsidy programs also funded by USF, including rural healthcare, Lifeline, the mobility fund, schools and libraries, and high-cost telephone services.

Given all these worthwhile demands and the pressure to minimize the costs of the fixed broadband subsidy program, the Commission correctly determined that it could not afford to subsidize multiple fixed broadband service providers in unserved areas.[11] More importantly, any

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[8] *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*; WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011) (hereafter cited at "*2011 CAF Order*").

[9] *See,* https://www.fcc.gov/general/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support.

[10] Reform of the USF contribution system has been pending at the Commission since 2006. *Universal Service Contribution Methodology*, 21 FCC Rcd 7518 (2006).

[11] *2011 CAF Order* at fn. 238 ("Support should be used to further the goal of universal voice and broadband, and not to subsidize competition in areas where an unsubsidized

such synthetic competition is unlikely to produce any real benefits for consumers.[12] Thus, given the economics of fixed broadband infrastructure costs, in the near term there is unlikely to be an increase in fixed broadband competition in the rural areas that are unserved or underserved presently. However, as discussed below, ADTRAN believes that this situation will improve in the not too distant future.

Fostering Fixed Broadband Deployment and Competition

The current situation -- wherein customers in low population density territories can typically choose from at most a single fixed broadband service provider – is likely to change soon largely as a result of technological progress. And while there is no single "silver bullet" to solve the broadband deployment gap, there are a great number of actions the Commission (and other government entities) can take to accelerate the more widespread deployment of broadband service and broadband competition. The Commission should use this annual report on broadband competition as an opportunity to make sure it is taking all the appropriate and requisite steps to foster broadband competition.

The Commission is already undertaking many actions that should help to continue to narrow the broadband gap. Through the CAF, the Commission is subsidizing the deployment of broadband services in areas where the economics of network costs make strictly market-based solutions unavailable. The Commission has already begun to subsidize broadband deployment in many areas served by price cap and rate-of-return incumbent carriers.[13] And the Commission

competitor is providing service.").

[12] *United States Telecom Ass'n v. FCC*, 359 F.3d 554, 573 (D.C. Cir. 2004), cert. denied, 125 S.Ct. 313, 316, 345 (2004).

[13] *E.g.*, *2011 CAF Order; Connect America Fund et al.*, WC Docket No. et al., Report and Order, Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, 31 FCC Rcd 3087 (2016) (*Rate-of-Return Reform Order* or *Rate-of-Return Reform Further Notice*).

is conducting the CAF Phase II reverse auction to award broadband subsidies in high cost areas where the incumbent carrier declined the model-based subsidies.[14] The Commission has also announced plans for the Remote Areas Fund for the highest cost territories.[15] In addition, through the Lifeline program, the Commission is expanding broadband adoption for low-income households. By increasing the adoption rates through the Lifeline program, the Commission also fosters broadband deployment by making networks more economic as the fixed costs can be shared by more customers.

The Commission also provides broadband subsidies for schools and libraries, along with subsidies for rural health care providers. The deployment of broadband facilities to these "anchor institutions" is another way of positively impacting the economics of broadband deployment to the communities served by these anchor institutions, because extending broadband service to the surrounding households only requires additional incremental investments.

The Commission is not the only government entity that is currently subsidizing broadband deployments. The RUS program at the Department of Agriculture provides loans and grants to support broadband services in rural areas – defined as areas not (1) in a town or other incorporated area with 20,000 or more inhabitants, or (2) any urbanized area contiguous and adjacent to a city or town with more than 50,000 inhabitants.[16] The Department of Housing and

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[14] https://www.fcc.gov/auction/903.

[15] *2011 CAF Order* at ¶¶ 533-34. *See also, Wireline Competition Bureau Seeks Further Comment on Issues Regarding the Design of the Remote Areas Fund*, 28 FCC Rcd 265 (2013).

[16] 7 U.S.C. § 950bb (b)(3). Information on the RUS loan and grant programs is available on the Department of Agriculture website at https://www.rd.usda.gov/programs-services/all-programs/telecom-programs. Congress recently appropriated $600 million for a pilot broadband program to be administered by RUS. "Rural Utilities Service Broadband e-Connectivity Pilot

Urban Development has also adopted broadband deployment requirements for some of the low-income housing programs.[17] And several states have adopted broadband subsidy programs as well.[18] The Commission should coordinate with these other subsidy programs to ensure that all of the funds are spent efficiently and with harmonized goals.

In addition to these broadband subsidy programs, the Commission has also undertaken actions to remove unnecessary or overly burdensome regulations that have the effect of stifling or slowing down broadband deployment. The Commission has streamlined and accelerated the processes for retirement of obsolete networks when new fiber facilities are deployed.[19] The Commission also eliminated the Title II regulation of Internet access services and the accompanying vague and overly prescriptive net neutrality provisions, which had deterred broadband investment.[20] The Commission is also speeding up the process for pole attachments.[21] ADTRAN believes these Commission actions in clearing the path for new broadband deployment will help solve the broadband gap.

Program", 83 FR 35609 (July 27, 2018).

[17] https://www.federalregister.gov/documents/2016/12/20/2016-30708/narrowing-the-digital-divide-through-installation-of-broadband-infrastructure-in-hud-funded-new.

[18] *E.g.*, New York (https://www.ny.gov/programs/broadband-all); Pennsylvania (https://www.governor.pa.gov/broadband/) .

[19] *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, 32 FCC Rcd 11128 (2017); *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Second Report and Order, FCC 18-74, released June 8, 2018.

[20] *Restoring Internet Freedom*, WC Docket No. 17-108, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd 311 (2018).

[21] *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, FCC 18-111, released August 3, 2018.

The Commission is also aggressively addressing the acceleration of wireless services deployment through several actions. The Commission has allocated significant amounts of spectrum for new licensed services. This includes low-band, mid-band and high-band spectrum necessary for advanced services, including fifth generation ("5G") mobile services.[22] This is also significant for fixed broadband competition, because the capabilities of 5G make it a substitute for wireline fixed broadband services. Service providers are deploying 5G networks in pilot programs across the country,[23] and some service providers are also presently using 5G services to meet their CAF deployment obligations.[24] In many situations, wireless broadband can profitably be deployed in territories where low household density makes wireline broadband uneconomic without subsidies.

The Commission has also allocated unlicensed spectrum that could be useful for fixed wireless broadband services, including the "white spaces" spectrum and the 3.55-3.7 GHz band on an opportunistic use basis.[25] In addition, wireless broadband can provide the link between the customer premises and the node that makes fiber-to-the-neighborhood economical.[26] Thus, the

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[22] *E.g.*, *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al*., Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014 (2016); Second Report and Order, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, and Memorandum Opinion and Order, 32 FCC Rcd 10988 (2017)); Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73 (June 8, 2018).

[23] *E.g.*, https://www.verizon.com/about/news/verizon-chairman-ceo-lowell-mcadam-names-los-angeles-2018-5g-market; https://www.channelpartnersonline.com/2018/01/05/att-eyes-5g-business-trials-as-verizon-plans-commercial-launch/.

[24] *E.g.*, https://www.fiercewireless.com/wireless/at-t-expands-fixed-wireless-offering-to-nine-new-states.

[25] *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, 30 FCC Rcd 3959 (2015); https://www.fcc.gov/general/white-space.

[26] *E.g.*, https://www.satellitetoday.com/telecom/2018/07/27/c-spire-and-mimosa-will-bring-5g-across-mississippi/; https://www.fiercewireless.com/wireless/centurylink-we-won-t-

Commission's previous, ongoing and future spectrum allocation decisions will greatly enhance fixed broadband competition and narrow the broadband deployment gap.

Importantly, the Commission is also engaged in rulemaking proceedings that are designed to speed the deployment of 5G and other advanced wireless services. These include streamlining or eliminating unnecessary environmental and historic preservation reviews.[27] And in some situations, the Commission has preempted local regulations that deter or unnecessarily delay deployment of the small antenna systems that will be necessary for the densification of networks for 5G deployments.[28]

For many situations, ADTRAN believes that wireless broadband services – including 5G services -- will narrow the broadband gap by providing services equivalent to wireline fixed broadband services in unserved and underserved rural areas. Wireless broadband will also likely be provided by multiple service providers, thus enhancing broadband competition for fixed broadband service.[29] But even those terrestrial wireless services will not be able to overcome the economics of deploying broadband service to the most remote and least densely populated territories. For these isolated customers, their best option presently is satellite broadband service.

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buy-spectrum-at-auction.

[27] *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Deployment*, FCC 18-30, released March 30, 2018; *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Deployment*, Report and Order, 32 FCC Rcd 9760 (2017).

[28] *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, FCC 18-111, released August 3, 2018.

[29] According to the most recent Mobile Wireless Competition Report, as of year-end 2016, 96.6% of the U.S. population had LTE Broadband coverage from three or more providers. https://www.fcc.gov/reports-research/reports/mobile-wireless-competition-reports/mobile-wireless-competition-report-20th.

And while there are some high throughput satellites ("HTS") now offering broadband service with advertised speeds of 25/3 Mbps or greater,[30] those services are an imperfect substitute. The current HTS services are offered by geostationary satellites, and the resulting significant latency delays means that any interactive services are inferior to the terrestrial broadband offerings.[31] In addition, capacity constraints of these geostationary satellite services render them a less than optimal solution for these remote customers.

There may be a technological solution even for these very remote customers in the not-too-distant future, however. Several entities have proposed mega-constellations of low-Earth orbit satellite systems, and some have already been conditionally authorized by the Commission.[32] The operation in low-Earth orbit should significantly reduce the latency

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[30] *See*, https://www.hughesnet.com/get-started ("HughesNet Gen5 is faster than ever – 25 Mbps download and 3Mbps Upload – and is available to anyone, anywhere, coast-to-coast."); https://www.exede.com/viasat-internet/ (offers "up to" 50/3 Mbps speeds in select areas and 30/3 Mbps everywhere).

[31] The Commission recognized these drawbacks to satellite broadband services when it attached a negative weighting to broadband services with latency greater than 750 ms in its upcoming reverse auction to award subsidies in the CAF Phase II program. *Connect America Fund et al.*, Report and Order and Order on Reconsideration, 32 FCC Rcd 1624 (2017) at ¶¶ 31-34.

[32] Following OneWeb's initial application, thirteen additional companies filed for authorizations. IBFS File Nos. SAT-MOD-20160624-00060 and SAT-AMD-20161115-00116 (O3b Limited); SAT-PDR20161115-00108 (Telesat Canada); SAT-LOA-20161115-00109 (The Boeing Company); SAT-PDR-2016111500111 (Space Norway AS); SAT-PDR-20161115-00112 (LeoSat MA, Inc.); SAT-LOA-20161115-00113 (Karousel LLC); SAT-PDR-20161115-00114 (Kepler Communications Inc.); SAT-LOA-20161115-00117 (Audacy Corporation); SAT-LOA-20161115-00118 (SpaceX); SAT-PDR-20161115-00120 (ViaSat, Inc.); and SAT-LOA20161115-00121 (Theia Holdings A, Inc.); SAT-LOI-20170726-00111 (New Spectrum Satellite, Ltd). So far, four applications have been granted. *See WorldVu Satellites Limited, Petition for Declaratory Ruling Granting Access to the U.S. Market for the OneWeb* NGSO FSS System, Order and Declaratory Ruling, 32 FCC Rcd 5366 (2017); *Space Norway AS*, Order and Declaratory Ruling, 32 FCC Rcd 9649 (2017) (Space Norway Order); *Telesat Canada*, Order and Declaratory Ruling, 32 FCC Rcd 9663(2017) (Telesat Canada Order); *Space Exploration Holdings, LLC*, FCC 18-38, released March 29, 2018.

problems faced by GSO satellites, and the robustness of the constellations with the concomitant frequency re-use should overcome the capacity constraints. And once deployed, these satellite systems should be able to provide service economically even to the most remote customers.[33] This technological development may mean that the broadband gap can be eliminated everywhere, and with service provided potentially by multiple providers.

ADTRAN cautions, however, that at this point this is a potential solution, but not necessarily a "sure thing." There are issues to be resolved with respect to frequency sharing amongst the GSO and NGSO satellite systems, as well as between the satellite services and terrestrial services. Moreover, previously-licensed NGSO satellite systems similar to the current proposals never got launched, and it is not clear that the economics of constructing, launching and operating these mega-constellations have changed significantly in the intervening years.[34] Thus, it may be too early to conclude that even the most remote customers will be able to enjoy the benefits of broadband services without USF subsidies.[35]

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[33] Indeed, these constellations will have the capability to provide service anywhere on the planet.

[34] *See, e.g.*, Teledesic Corporation, Application for Authority to Construct, Launch and Operate a Low Earth Orbit Satellite System in the Domestic and International Fixed-Satellite Service, *Order and Authorization*, 12 FCC Rcd 3154 (1997). Teledesic surrendered its authorization in a letter dated June 27, 2003 (available at surrender); Application of SkyBridge L.L.C. for Authority to Launch and Operate a Global Network of Low-Earth Orbit Communications Satellites Providing Broadband Services in the Fixed-Satellite Service, *Order and Authorization*, 20 FCC Rcd 12389, (Int'l Bur. 2005). SkyBridge surrendered the license on August 17, 2005. *See* Satellite Policy Branch Information, Actions Taken, *Public Notice*, Report No. SAT-00314, DA 05-2327 (released August 19, 2005).

[35] Of course, to the extent that the satellite systems get access to spectrum without having to pay for it like terrestrial services due to the law precluding the FCC from auctioning satellite spectrum (Section 647 of the ORBIT Act, codified at 47 U.S.C. § 765(f)), it would be inaccurate to claim that such services are entirely free of subsidies.

Despite the Commission's significant actions, it cannot, by itself, eliminate many of the current regulatory obstacles to broadband deployment. State and local governments have a critical role to play with regard to many aspects of broadband network deployments, both wireline and wireless. Those entities control rights of way that will be necessary for wireless antenna deployments, as well as deployment of the fiber that connects those antennas to the service providers' networks. In addition, other federal agencies control property and/or rights of way that will be necessary for deploying antennas (and the wireline backhaul facilities connecting those antenna sites).

The Commission established the Broadband Deployment Advisory Committee ("BDAC") to develop recommendations for best practices and model codes that should be helpful in accelerating broadband deployments.[36] In addition, the BDAC is examining the rates that governments should charge for access to rights of way. State and local government adoptions of the recommendations of the BDAC should help eliminate many of the current impediments to broadband facility deployment.

At the federal government level, efforts are being made to help accelerate broadband deployment. Pursuant to legislation,[37] the General Services Administration ("GSA") is developing a common form and master contract for wireless facility siting on buildings and other property owned by the Federal Government. And this Administration adopted an Executive Order requiring executive departments and agencies to reduce barriers to capital investment, remove obstacles to broadband services, and more efficiently employ federal government

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36 *See*, https://www.fcc.gov/broadband-deployment-advisory-committee.

37 Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 (Public Law 112-96).

resources in furtherance of accelerating broadband deployment in rural areas.[38] The Commission continue to should work with other federal, state and local governments to encourage these efforts to foster broadband deployment.

Conclusion

Despite the progress that has been made in deploying broadband throughout the country, a broadband gap remains at present between urban and rural territories due to the economics of populations density affecting fixed broadband networks. The Commission is working hard to foster broadband deployment through subsidy programs, elimination of regulatory impediments and encouraging new broadband technologies such as 5G and NGSO satellite systems. These actions should continue to result in additional broadband competition and elimination of the broadband gap. ADTRAN thus urges the Commission to persist with these efforts. In addition, the Commission should encourage other state, local and federal government officials to do what they can to foster additional broadband deployment.

Respectfully submitted,

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[38] https://www.whitehouse.gov/presidential-actions/presidential-executive-order-streamlining-expediting-requests-locate-broadband-facilities-rural-america/.